AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.   (currently amended): A system for reliably broadcasting a data packet under an ad-hoc network environment, the system comprising:

a comparing unit operable to compare a first relay node sequence number with a second relay node sequence number, the first relay node sequence number being contained in a management packet received by at least one node transmitting the data packet, the second relay node sequence number being stored in a neighbor table of the at least one node; and

a control unit operable to determine whether or not the data packet is retransmitted ~~to~~-by the at least one node according to a result of the comparison.

2.   (original): The system according to claim 1, wherein the control unit transmits the data packet, wherein after adding "1" to the second relay node sequence number, the resulting sequence number is included in the data packet.

3.   (currently amended): The system according to claim 1, further comprising a memory unit which includes the neighbor table drafted on the basis of information of the management packet received by ~~transmitted from~~-the at least one node.

4.   (original): The system according to claim 1, wherein the data packet includes at least one of Internet protocol addresses of neighboring nodes, relay nodes, link status, and relay node sequence numbers.

5.   (original): The system according to claim 3, wherein the neighbor table is updated on the basis of the information of the management packet each of a predetermined number of times.

6.   (currently amended): A system for reliably broadcasting a data packet under an ad-hoc network environment, the system comprising:

a determining unit operable to determine whether or not at least one node that receives the data packet is a relay node which transmits the received data packet to other neighboring nodes;

a comparing unit operable to compare a first relay node sequence number with a second relay node sequence number, the first relay node sequence number being contained in a management packet which is received by at least one node that transmits a ~~the node that receives the~~ data packet ~~transmits~~, the second relay node sequence number being stored in a neighbor table of the at least one node that transmits the data packet; and

a control unit operable to determine whether or not the data packet is retransmitted ~~to~~by the at least one node that transmits the data packet according to a result of the comparison.

7.   (original): The system according to claim 6, wherein the control unit transmits the data packet, wherein after adding "1" to the second relay node sequence number, the resulting sequence number is included in the data packet.

8.   (currently amended): The system according to claim 6, further comprising a memory unit which includes the neighbor table drafted on the basis of information of the management packet ~~transmitted from~~received by the at least one node that transmits the data packet.

9.   (original): The system according to claim 6, wherein the data packet includes at

least one of Internet protocol addresses of neighboring nodes, relay nodes, link status, and relay

node sequence numbers.

10.   (original): The system according to claim 8, wherein the neighbor table is

updated on the basis of the information of the management packet each of a predetermined

number of times.

11.   (currently amended): A method for reliably broadcasting a data packet under an

ad-hoc network environment, the method comprising:

broadcasting the data packet to neighboring nodes;

comparing a first relay node sequence number with a second relay node sequence

number, the first relay node sequence number being contained in a management packet which

received from each of the neighboring nodes transmits, the second relay node sequence number

being stored in a neighbor table of a node broadcasting the data packeteach of the neighboring

nodes; and

determining whether or not the data packet is retransmitted to the neighboring nodes

according to a result of the comparison.

12.   (original): The method according to claim 11, wherein the step of broadcasting

comprises:

adding "1" to the second relay node sequence number which is stored in the neighbor

table of each of the neighboring nodes;

adding the resulting relay node sequence number and predetermined information to the

data packet;

storing information of the data packet in the neighbor table; and

broadcasting the data packet to the neighboring nodes.

13.   (currently amended): The method according to claim 11, wherein the step of

comparing comprises:

receiving the management packet from the neighboring nodes; and

comparing the first relay node sequence number contained in the received management

packet with the second relay node sequence number stored in the neighbor table of the node

broadcasting the data packeteach of the neighboring nodes.

14.   (original): The method according to claim 11, wherein the step of determining

comprises:

as a result of the comparison, when the first and second relay node sequence numbers are

equal, terminating transmission of the data packet; and

when the first and second relay node sequence numbers are not equal to each other,

retransmitting the data packet to the neighboring nodes.

15.   (original): The method according to claim 14, wherein a number of times for

retransmitting the data packet is set to a predetermined number of times, and when the number of

times the data packet has been retransmitted exceeds the set number of times, retransmitting the

data packet is stopped.

16.   (original): The method according to claim 15, wherein, when the first and second

relay node sequence numbers are not equal, the neighbor table is updated with a relatively large

relay node sequence number.

17.   (original): The method according to claim 11, wherein the data packet includes at

least one of Internet protocol addresses of neighboring nodes, relay nodes, link status, and relay

node sequence numbers.

18.   (original): The method according to claim 15, wherein the neighbor table is
updated on the basis of information of the management packet each of the predetermined number
of times.

19.   (currently amended): A method for reliably broadcasting a data packet under an
ad-hoc network environment, the method comprising:

checking whether at least one node operable to receive the data packet is a relay node;

as a result of checking, when the node is a relay node, broadcasting the data packet to
neighboring nodes;

comparing a first relay node sequence number with a second relay node sequence
number, the first relay node sequence number being contained in a management packet which
each of the neighboring nodes transmits, the second relay node sequence number being stored in
a neighbor table of the at least one node~~each of the neighboring nodes~~; and

determining whether or not the data packet is retransmitted to the neighboring nodes
according to a result of the comparison.

20.   (original): The method according to claim 19, wherein the step of broadcasting
comprises:

adding "1" to the second relay node sequence number which is stored in the neighbor
table of each of the neighboring nodes;

adding the resulting relay node sequence number and predetermined information to the
data packet;

storing information of the data packet in the neighbor table; and

broadcasting the data packet to the neighboring nodes.

21.   (currently amended): The method according to claim 19, wherein the step of comparing comprises:

receiving the management packet from the neighboring nodes; and

comparing the first relay node sequence number contained in the management packet which each of the neighboring nodes transmits, with the second relay node sequence number stored in the neighbor table of <u>the at least one node</u>~~each of the neighboring nodes~~.

22.   (original): The method according to claim 19, wherein the step of determining comprises:

as a result of the comparison, when the first and second relay node sequence numbers are equal, terminating transmission of the data packet; and

when the first and second relay node sequence numbers are not equal, retransmitting the data packet to the neighboring nodes.

23.   (original): The method according to claim 22, wherein retransmission of the data packet is set to occur a predetermined number of times, and when the number of times the data packet is retransmitted exceeds the set number of times, retransmitting the data packet is stopped.

24.   (original): The method according to claim 23, wherein, when the first and second relay node sequence numbers are not equal, the neighbor table is updated with a relatively large relay node sequence number.

25.   (original): The method according to claim 19, wherein the data packet includes at least one of Internet protocol addresses of the neighboring nodes, relay nodes, link status, and relay node sequence numbers.

26.   (original): The method according to claim 23, wherein the neighbor table is updated on the basis of information of the management packet each of the predetermined number of times.

27.   (original): The method according to claim 19, further comprising the step of; as a result of checking, when the node is not the relay node, storing information of the received data packet in the neighbor table.

28.   (new): The system according to claim 1, wherein the management packet is transmitted by a node which receives the data packet transmitted by the at least one node.